

REMARKS

The request for continued examination has been acknowledged by the Examiner and as such, the amendment filed on March 14, 2007 has been entered.

Claims 1, 2, and 4 have been rejected under 35 U.S.C. 102(b) as being anticipated by JP 51149211A ("Saiga"). The Examiner States that Saiga discloses a method of improving odor from natural sources comprising the use of a complex metal hydride, e.g. borohydride. The rejection is respectfully traversed.

To reject a claim on the basis of anticipation over a reference, the reference must teach each and every limitation of the claimed invention. The Examiner readily admits that the Saiga reference does not teach the fish scales of instant claim 1. Accordingly, the patent cannot be used to properly reject claims 1, 2, and 4 by anticipation under 35 U.S.C. 102(b). Further, applicants note that Saiga discloses reducing amines obtained from natural fats and oils, which are liquid materials and not the pigment of the claimed invention, which pigment would be a solid material. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 1-8, 10, and 14-17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Saiga in view of JP 2003/088337A ("Hiroshi"). The Examiner states that Saiga teaches a method of improving odor from natural sources. The Examiner admits that Saiga differs from the instant application in that it does not teach a weak acid of instant claims 5, 7, 8, and 14-17. The Examiner states that the use of weak organic acids to reduce the odor of fish scale products was known in the art as taught by Hiroshi, in paragraph 0011. The Examiner again admits that Hiroshi

does not teach the acetic acid in instant claims 8 and 17 but teaches citric and phosphoric acid. The Examiner states that citric and phosphoric acid of Hiroshi are deemed to be the functional equivalents of acetic acid.

The Examiner additionally admits that the Saiga reference differs from the instant claims in that the reference does not teach the fish scale derived paste of instant claims 3, 14, and 15. The Examiners states that Hiroshi forms a fish scale derived paste by mixing acidic water with ground fish scales as set forth in paragraphs 15 and 16. The Examiner concludes it would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a method of reducing the odor of fish scale derived products using a complex metal hydride and a weak acid as taught by Saiga in view of Hiroshi. The rejection is respectfully traversed.

First, the primary reference is not at all concerned with deodorizing a pigment derived from fish scales. The primary reference to Saiga is concerned with chemically reducing long chain aliphatic amines and their derivatives obtained from natural fats and oils with borohydride compounds. The patent does not remotely suggest treating a pigment, a solid, derived from fish scales with the complex metal hydride. The secondary reference does not make up for the deficiencies of the primary reference. The secondary reference is an attempt to form a liquid derived from fish scales and to deodorize the liquid. In fact, the secondary reference states that previous to their invention, the scales were typically discarded. This is totally contrary to the present invention which understands that the pearlescent crystals taken from the fish scales can be used as a natural colorant. In the presently claimed

invention, a weak acid is added to the mixture of pigment and complex metal hydride to cause foaming and off-gassing from the mixture. As stated at page 9 of the application, the addition of a weak acid neutralizes the finished product and the liquid waste water providing improved odor reduction. Further, it has been found that the off-gassing which is achieved during the addition of the weak acid, appears to be needed to provide successful odor reduction.

The Examiner admits that the secondary reference does not even teach acetic acid. More importantly, the secondary reference teaches an addition of acid to the aqueous mixture of fish scales to dissolve the fish scales. The patent does not otherwise suggest extracting any crystalline pigment from the dissolved fish scales. The Examiner states that although Hiroshi does not teach the acetic acid of instant claims 8 and 17, the citric acid and phosphoric acid disclosed by Hiroshi are deemed to be functional equivalents of acetic acid. On the contrary, phosphoric acid is a very strong mineral acid and is used in Hiroshi to dissolve the fish scales. In the present invention, a weak acid is used to add to the mixture of crystals derived from fish scales, water and borohydride to cause off-gassing and improve odor reduction. The use of an acid to dissolve fish scales in the secondary reference is not all applicable to the presently claimed process where a weak acid is added to improve off-gassing, not dissolve the crystals derived from the fish scales. The combination of references does not remotely suggest the treatment of a pigment derived from fish scales with a complex metal hydride as claimed. The primary reference is concerned with chemical reduction of amines derived from liquids and the secondary reference is concerned with dissolving fish scales to form a fish scale solution in water and does not remotely suggest using the crystalline material from the fish scales as a pigment

or the deodorization of such crystalline material. The secondary reference while concerned with deodorizing the dissolved liquid derived from fish scales does not suggest use of a borohydride but instead, utilizes a cyclodextrin to aid in the deodorization process. In view of the fact that both the primary and secondary references are directed to deodorizing a liquid and not to deodorizing a pigment derived from fish scales, the combination of references cannot remotely suggest or render obvious the claimed invention.

Claims 1, 9, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saiga in view of Hiroshi. The Examiner states that Saiga teaches a method of improving odor from natural sources and Hiroshi teaches a method of reducing the odor of fish scales derived products using weak organic acids. The Examiner states the while the prior art does not applicably teach all the instant claim percentages, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine suitable percentages through routine or manipulative experimentation. The rejection is respectfully traversed.

As stated above, the combination of the primary and secondary references do not remotely suggest the claimed process. The primary reference is concerned with chemically reducing amines obtained from natural fats and oils not from fish scales. The secondary reference is not concerned with treating a pigment derived from fish scales but is concerned with dissolving the fish scales and using the dissolved liquid for a food product. The reference does not remotely suggest that the crystals obtained from the fish scales would have use nor does the reference remotely suggest any process which would reduce the odor and maintain the pearlessness of the

crystalline material derived from the fish scales. Accordingly, since neither of the applied references singularly or combined are remotely concerned with treating a pigment derived from fish scales with complex metal hydride, how could the references remotely suggest any of the specific ranges which are disclosed. Importantly, the secondary reference is concerned with dissolving the fish scales to form a liquid whereas in the presently claimed invention, the crystalline material is extracted from the fish scales which become the pigment to be treated in the claimed invention. The fact that the applicant has shown that the pigment derived from fish scales can be deodorized is not at all suggested in any of the applied art.

Claims 1 and 18-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Saiga in view of Hiroshi in further view of U.S. Patent No. 4,486,334 ("Horiuchi"). The Examiner admits that Saiga and Hiroshi differ from the instant application in that they do not teach a cosmetic formulation. The Examiner states that fish scale derived cosmetic formulations were known in the art before the instant application was filed as explained by Horiuchi. The Examiner concludes it would have been obvious to one of ordinary skill in the art at the time the invention was made to disclose a cosmetic formulation derived from fish scales. The rejection is respectfully traversed.

Applicants readily admit that cosmetics were derived from pigments obtained from fish scales. The problem with such cosmetics is that such cosmetics were provided with an unpleasant odor. The present invention is directed to treating the pigment derived from fish scales to reduce the odor. The combination of Saiga and Hiroshi as discussed above do not remotely suggest treating the pigment derived

from fish scales with a complex borohydride. While the primary reference teaches chemically reducing amines with borohydride compounds, the abstract does not remotely suggest treating the pigment, a solid, with such materials. The secondary reference is not concerned with deodorizing the crystalline material (pigment) obtained from fish scales but is concerned with dissolving the fish scales to form a deodorized liquid. The liquid of the secondary reference is used for a food product. Accordingly, the addition of the Horiuchi reference is simply incongruous with the teachings of Saiga and Hiroshi. It is respectfully requested that the rejection be withdrawn.

In view of the above remarks, it is believed that claims 1-20 patentably distinguish over the art of record and applicants respectfully solicit favorable action on these claims.

Respectfully Submitted,

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Stuart D. Frenkel  
Reg. No. 29,500  
Frenkel & Associates, P.C.  
3975 University Drive, Suite 330  
Fairfax, VA 22030  
Phone: 703-246-9641  
Facsimile: 703-246-9646